



Regional sinkhole susceptibility maps: The Latium Region case (central Italy)

F. La Vigna (1), P. Teoli (1), R. Mazza (1), G. Leoni (2), and G. Capelli (1)

(1) RomaTRE University, Geological Sc. Dept., LinQ - Numerical and Quantitative Hydrogeology Lab., Rome, Italy, (2) RomaTRE University, Geological Sc. Dept., Geomorphology Lab., Rome, Italy

Several and frequent studies were internationally presented about landslide susceptibility, meanwhile in literature is missing a broad diffusion of studies regarding sinkhole susceptibility. That's why sinkhole recurrence depends on several geological conditions related to specific geological and hydrogeological context (sinkhole prone area) that vary case by case.

Notwithstanding this regionalization problem of sinkhole recurrence, in the central Appenine sedimentary basins (Italy) a certain number of geological, geomorphologic and hydrogeological conditions (sinkhole predisposing issues) can be considered in common between the surveyed sinkholes. Eventually this could be compared with similar geological conditions and sinkhole occurrence in the rest of Italy or in other countries.

In this case study is presented a probabilistic approach regarding the Latium Region deriving from the comparison between the regional sinkhole inventory realized during a precedent project and the dataset of the new Hydrogeological Map of Latium Region (scale 1:100.000).

Indexed elements, chosen because associated to the majority of sinkhole phenomena, are: outcropping lithologies, water table depth, main faults (even if buried), hydrothermal springs, land use and the epicentres of recent earthquakes.

These indexed elements were weighted and combined in a matrix which preliminary result is the sinkhole susceptibility map of Latium Region.

When definitively validated, this approach could be suitable for local authorities to planning more targeted studies in major hazard areas.